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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,495

01/20/2006

Elliott A Gruskin

127304.00901

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21269 7590 08/21/2009
PEPPER HAMILTON LLP
ONE MELLON CENTER, 50TH FLOOR
500 GRANT STREET
PITTSBURGH, PA 15219

EXAMINER

PROUTY, REBECCA E

ART UNIT

PAPER NUMBER

1652

MAIL DATE

DELIVERY MODE

08/21/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,495	Applicant(s) GRUSKIN ET AL.	
	Examiner Rebecca E. Prouty	Art Unit 1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,9-11,22,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 5, 9-11, 22, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/09</u> . | 6) <input type="checkbox"/> Other: _____ |

Claims 2, 4, 6-8, 12-21, 23, and 24 have been canceled. Claims 1, 3, 5, 9-11, 22 and newly presented claims 25 and 26 are still at issue and are present for examination.

Applicants' arguments filed on 4/29/09, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Applicants citation of paragraph numbers (presumably from the published application) to indicate support for amendments to the claims is confusing and makes examination difficult as the paragraphs of the original application are not numbered, and the examiner has to locate the citation in the original specification not in the published document. It is requested that all future recitations of specification positions refer to page and line numbers of the original specification and not to paragraph numbers from the published application.

Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 25 is confusing in the recitation of "achieves 1 to 100 micro molar concentration" as it is unclear where this

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concentration should be present. Is this referring to concentration in blood following administration? in tissue? or something else?

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 5, 9, 10, 22, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (WO 00/64482) in view of either of Yick et al. (reference C1 of applicants IDS of 7/07) or Zuo et al. (reference CAG of applicants IDS of 4/06). The rejection is explained in the previous Office Action. Furthermore, new claims 25 and 26 are included in the rejection as the rejection clearly indicated that pharmaceutical compositions of the chimeric proteins would have been obvious to one of ordinary skill in the art and

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determining the optimum therapeutic dose of a desired pharmaceutical composition is well within the ordinary skill in the art.

Applicants argue that although Olson appreciates that it might be desirable to inhibit or suppress proteoglycans it does not suggest destroying proteoglycans and as proteoglycans are both positive and negative regulators of axonal growth a skilled artisan would expect harmful effects if they were degraded. However, this is not persuasive. A thing (a proteoglycan) cannot be inhibited or suppressed. Only activities can be inhibited or suppressed. Thus a skilled artisan would understand the teaching of Olsen to suggest that an activity or function of a proteoglycan or the production/stability of the proteoglycan be inhibited or suppressed and thus that the first component of the chimeric protein be a protein which inhibits or suppresses an activity of a proteoglycan or a protein which inhibits or suppresses the production or stability of the proteoglycan itself. A skilled artisan would understand that a protein that degrades a proteoglycan is encompassed as this would clearly limit the amount of the inhibitory compound. Each of Yick et al. and Zuo et al. teach that chondroitin proteoglycans are extracellular matrix components which inhibit neuronal growth and regeneration following injury and that the

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administration of chondroitinase ABC which degrades chondroitin proteoglycans promotes axonal regeneration. Thus a skilled artisan clearly would clearly understand a chondroitinase ABC to be within the scope of the first component of Olsen et al.

Furthermore, the teachings of Yick et al. and Zuo et al. make it clear that in fact degradation of chondroitin proteoglycans in particular does not have harmful effects as administration of this enzyme in fact promotes axonal regeneration. Applicants arguments, particularly regarding the teachings of Olson et al. and others regarding proteoglycans in general, ignore that the rejection is made in view of the combination of references not in view of Olsen et al. alone. The references of Yick et al. and Zuo et al. make it clear that degradation of chondroitin by chondroitinase ABC is not harmful but promotes axon regeneration

Applicants argue that it would have not been obvious to one of ordinary skill in the art to link an enzymatic moiety to a chimera to achieve proteoglycan destruction and neurite growth as enzymes are complex and unpredictable compounds that exhibit variable functionalities under different steric conditions. Proper three-dimensional conformation, steric conformations and lack of steric hindrance are well-known in the art to be key aspects to the function of enzymes. However, this is not persuasive as the creation of fusion proteins including enzymes

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in which the enzyme retains its enzymatic activity is well known in the art. While there is certainly some uncertainty with the creation of a fusion protein whether activity can be retained, methods of avoiding such an occurrence (i.e., use of flexible linkers and the ability to alter the order of the fusion partner and thus the particular positions of the fusion partner most likely to be sterically hindered) are also well understood in the art and a skilled artisan would reasonably expect to be able to produce a fusion protein including an enzyme with the retention of enzymatic activity in the fusion. Applicants are reminded that obviousness does not require an absolute certainty of success but only a reasonable expectation thereof.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Olsen et al. (WO 00/64482) in view of either of Yick et al. or Zuo et al. as applied to claims 1, 3, 5, 9, 10, 22, 25 and 26 above, and further in view of Gearing (US Patent 5,262,522). The rejection is explained in the previous Office Action.

Applicant has not presented any arguments specifically traversing this rejection but instead relies upon the traversal discussed above. Therefore, this rejection is maintained for the reasons presented above.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached at (571) 272-0811. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval

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(PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Rebecca Prouty/
Primary Examiner
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